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HERBICIDES IN NOVA SCOTIA

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Nova Scotia Environmental Control Council

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HERBICIDES IN NOVA SCOTIA

INTRODUCTION

Like most citizens of the developed world, Nova Scotians have for several years been engaged in controversy over the use of chemical pesticides. Most recently, the contoversy has centered on the use of the herbicides 2,4-D and 2,4,5-T in forest management. In 1977 and 1978, the product in dispute was fenitrithion, used in the New Brunswick spruce budworm control program. Opposition to the use of agricultural chemicals, including fertilizers and pest control products, has not yet become aggressive, but such a movement can be expected within the next few years.

At the request of the Minister of the Environment, the Nova Scotia Environmental Control Council has reviewed the issue of pesticides use in the Province. The specific request was to address the matter of approval of 2,4-D and 2,4,5-T in forestry operations during 1984, and Council has developed Immediate Recommendations in response to this request.

Council believes that the public is ready to have Government implement and enforce regulations for application of approved pesticides in an approved manner.

However, Council is of the opinion that the question of pesticides use and, indeed, of resource management cannot be resolved successfully on a year-to-year basis. Rather, we believe that much of the public discomfort with and suspicion of pesticides use in the Province rests on the lack of a

publicly recognized and accepted framework for controlling pesticide operations.

Therefore, Council has recommended that steps be taken to establish a long-term policy toward resource management and specifically, the use of chemical management tools. In addition, Council is considering additional long-term recommendations which will be submitted for the Minister's consideration.

It should further be noted that Council has not addressed the scientific arguments associated with the pesticides issue. We believe that scientific expertise available to Government is sufficient to advise on those aspects of the issue. Our approach has been to address the question of how provincial resources can be managed to both the benefit and the satisfaction of a majority of Nova Scotians.

Resolution of these questions is not simple: the issue is fraught with conflicting opinions and a high degree of emotion. Nor do we suggest that resolution can be achieved immediately. Rather, our recommendations are intended to begin the process of informing and involving the public and of providing a rational basis for discussion of the many issues involved. We believe that only by this process can public confidence be re-established.

USES

The major target of opponents of chemical pesticides is the forest industry. Forestry uses include the control of insect and fungal

infestations, and the suppression of "trash" hardwood growth in newly planted softwood stands. Contrary to popular opinion, the use of herbidides is not carried out annually, nor is it intended to permanently destroy valuable hardwood. Conifer release programs are intended to establish the growth of planted softwoods without competition from more rapidly growing plants such as pincherry, raspberry, etc. Normal hardwood growth will develop naturally following the spray, once the coniferous seedlings have been established.

Agricultural use of chemicals includes fertilizers, and pesticides to control insects, fungi and weeds.

While the major uses of chemical pesticides occur in the forestry and agriculture industries, a significant quantity of these products are used for domestic and aesthetic purposes. Households use them to kill dandelions in lawns; chemicals are being used against the Gypsy moth, which attacks ornamental trees and shrubs. An example of a more vital use was the insecticide spray undertaken by the City of Winnipeg to combat a mosquito carrying encephalitis. In some tropical areas the use of DDT has effectively reduced the incidence of malaria.

CONTROL PROCEDURES/CONDITIONS

The benefits of pesticides - improved forest and agricultural crop yield, disease control and more aesthetically pleasing lawns and gardens - must be weighed against the risks of pesticide use.

The fact that these products are used to eradicate living pests justifies the argument that they can not be used with abandon. Many of the products which we accept as necessary to our way of life, such as automobiles, x-rays and antibiotics, can also be harmful if used improperly. Governments have a responsibility to ensure regulation and control over the use of products which can be dangerous.

In Canada, pest control products are registered for use by Agriculture Canada, based on scientific and laboratory tests. Labelling regulations require that explicit instructions be provided on the methods and quantities of application and safety measures. Unfortunately, the discovery of inaccurate test results from IBT Laboratories a few years ago has seriously damaged public confidence in the scientific integrity of all testing, and therefore in the safety of registered products.

Within Nova Scotia, the two agencies with primary responsibility for control of the use of pesticides in forests are the Department of Lands and Forests and the Department of the Environment. All forest management plans are submitted to the Department of Lands and Forests for approval. Projected use of herbicides, insecticides and other pesticides as resource management tools is incorporated with the plans.

Specific spray programs require a permit from the Minister of the Environment. There is no legislation dealing with pesticide approvals, other than general provisions under the Environmental Protection Act, which explicitly exempts "accepted ordinary activities of individuals, households and farms" (Section 50 (2)). Thus, Department of the Environment procedures usually apply only to forestry operations, right-of-way clearances and aerial agricultural programs.

When an application for a spray permit is received, the Environment Department forwards it to other agencies (Health, Lands and Forests, Fisheries, Environment Canada and the Atlantic Region Pesticide Advisory Committee) for review. Internally, the Department verifies federal registration of the product, reviews toxicological data to identify requirements for special precautions, and conducts aerial and/or ground surveys of the site to identify environmental or other factors that would require protective conditions.

The Department compiles input from other agencies with its own findings to prepare a report and recommendation to the Minister. Stipulations for the conduct of the program if a ministerial permit is issued are included.

Monitoring, either continuous or on a spot check basis, is conducted by the Department. Where permit stipulations are not being followed, the site inspector requests immediate corrective action and contacts his/her supervisor for further action in the case of refusal. In the case of "flagrant" disregard of the permit stipulations, the inspector may order that the operation cease.

Following completion of the spray program, monitoring for short-term residue through analysis of soil and water samples is carried out. Some sites are subjected to monitoring over a period of several years to determine long-term residue levels.

Each spray program is the subject of a detailed annual report by staff. These provide the bases for changes in the guidelines or permit stipulations.

OTHER JURISDICTIONS

Most Canadian provinces have legislation specific to pest control projects, and Nova Scotia is the only Atlantic Province without legislation, either existing or pending.

Prince Edward Island: The Agricultural Chemicals Act gives the Minister of Agriculture responsibility for issuing licences and permits, and for investigations into pesticide use.

Licensing of vendors and applicators is required. Applicators are required to pass a competence examination in order to be licensed.

Newfoundland: A new Act and Regulations will be introduced in 1983 or 1984. At present, applications are reviewed under the Environmental Assessment Act, and users are licensed under the categories of Right-of-Way, Substation Sterilization, Bush Control, and Tree Nursery.

New Brunswick: The Pesticides Control Act applies to all commercial and restricted pesticides used in the Province, including agricultural products. Applicator certification is required, and both vendors and operators are licensed. Permits are required for aerial application or contracted ground application of products controlled under the Act.

A Pesticides Advisory Board (comprising representation from resource and regulatory government agencies) is responsible for issuing licences and certificates under the Act. All permit applications are reviewed by the Board, which makes a recommendation to the Minister of the Environment. In

addition, the Board holds one public meeting per year, at which anyone concerned about pesticides use can make a presentation. All briefs are forwarded to the Minister.

OPPOSITION

The basis for opposition to spray programs varies according to the specific chemical and method of application. Usually, it is related to health concerns, for example, the possible link between fenitrithion and the childhood disease Reye's Syndrome, and between other products and cancer, miscarriages and birth defects. Studies which seem to support a cause and effect relationship between chemicals and health problems are quoted.

In building their case against the use of sprays, opponents have very skillfully engaged individual concerns about health. In addition, they have provided the news media with copy that is easy to handle and have been accessible to reporters. Media "events" - public meetings, demonstrations - have all been used to good advantage to keep their position before the public.

The association between 2,4-D and 2,4,5-T and the Agent Orange of Vietnam notoriety has been exploited to increase the emotional rejection of these herbicides.

The abandonment of chemicals in forestry is an immediate goal of the opponents. The issue of agricultural chemicals has not yet been raised by the group, but "change in agriculture (is viewed) as a long term objective" (Elizabeth May in a news release July 8, 1982).

COURT DECISION

The decision of Nova Scotia Supreme Court Justice Merlin Nunn that "these spraying operations can be carried out in safety and without risk to the health of the citizens of this Province" was delivered on September 15, 1983. Since that time, the Plaintiffs and Nova Scotia Forest Industries have reached an out-of-court settlement of costs, involving the establishment of a scholarship.

The decision was based on the weight of scientific opinion that the substances are not carcinogenic and that no effect and safe levels for humans and wildlife exist. The onus of proof was on the plaintiffs, who failed to prove the substances unsafe, but the argument remains that they have not been proved safe, either. Indeed, the proving of a negative - that there is no risk - is virtually impossible.

Thus, the decision of the Court has not closed the issue, although it has provided a comprehensive review of all available scientific literature and expert opinion. That the decision was unquestionably in favour of the defendants, however, can not be dismissed in any discussion of the issue.

Other points raised by the case go far beyond the specific questions of the use of 2,4-D and 2,4,5-T. The argument that a court room is not the appropriate forum for the resolution of political/scientific disputes is a valid one. An additional issue is the question of awarding of costs against individuals or groups, such as these plaintiffs, motivated by sincere concerns for health and the environment. Alternatively, there must be some means of discouraging the launching of frivolous court actions on ostensible environmental grounds.

CURRENT ACTIVITIES

Both government and industry have failed to respond adequately to the criticisms of environmentalists. More important, there has been a failure to provide for the general public either balanced information or a neutral forum for discussion of the issue. However, this is changing, and both the major companies and smaller operators are adopting assertive information activities.

Recent statements by the federal Ministers of Environment and Agriculture would indicate that action to a) increase the independence of pesticides review and b) improve public consultation during review processes.

"Truth in Forestry" groups have formed in Inverness and Antigonish, with interest in other parts of the Province. The Inverness group of approximately 300 represents woodlot owners, woodsmen, teachers, doctors, with the addition of farmers and blueberry growers in Antigonish. The objectives of the groups include public education and, certainly in Inverness, alternate employment for displaced forest workers.

The provincial government has established a Royal Commission on Forestry, whose report is expected in 1984. In addition, an Inter-departmental Committee was formed in 1983 to make a report and recommendations to Government on the pesticides issue. This report has been submitted to Policy Board, but has not been released.

CONCLUSIONS

While the question of whether to approve 2,4-D and 2,4,5-T for use in 1984 and the means by which a decision can be best understood by the general public are the most immediate and urgent issues, Council believes that these represent the far greater question of resource management. For this reason, we have recommended that action be taken on two levels:

1) an immediate, "fire-fighting" action to begin to establish confidence in the department's ability to evaluate and control herbicide operations, and

2) establishment of procedures for long-term resource management and pesticides use control within the Province.

It is the Council's strong opinion that short-term efforts alone will be ineffective or perhaps damaging. At worst, the government and particularly the Department of the Environment will appear to be concerned about resource management only when the annual pesticides crisis makes action unavoidable. Without some indication that government has considered and is prepared to adopt a long-term strategy for resource management and for evaluation of pesticides use, annual crisis management will appear to be exactly what it is - a defensive public relations exercise.

Council has not addressed the scientific arguments with respect to pesticides, primarily because other agencies are far better equipped to evaluate scientific data. However, it is our belief that the issue does not represent a scientific dispute as much as it does a crisis of confidence in government's ability or willingness to control the use of pesticides within

the Province. The lack of public access to either specific permit applications or departmental procedures for reviewing and evaluating these and stipulating conditions for their approval further damages public confidence.

There is no framework in the Province, in the form of legislation or published guidelines for the assessment of pesticides use. Thus, the public has no criteria by which to evaluate either the need for or the safety of chemicals proposed for any purpose.

In addition to the lack of information on internal review criteria, the fact that this issue came before the Supreme Court suggests that political channels do not exist or are inadequate to the resolution of environmental questions. While the argument can be made that the spray opponents were precipitous or ill-advised in going to Court, the fact remains that they had lost faith in political action. The result of the trial, with the possibility of heavy damages against the plaintiffs, may inhibit future court actions on environmental issues. This situation can best be resolved by the establishment of political channels such as a pesticides advisory board or an environmental assessment process which have the confidence and respect of most Nova Scotians.

The lack of information about forestry operations in general and the use of chemicals in particular is rendered more serious by the attitudes of an urban population. Many Nova Scotians, including many spray opponents, do not understand modern forestry or agricultural activities. The urban view of rural areas as untouched wilderness, recreational area, or peaceful farmland does not consider the needs of modern resource management, nor does it appreciate the dependence of many rural residents upon the expansion of

resource-based industries. The extreme effect of this divergence of perspective can be seen in the example of the Newfoundland seal hunt, but is manifested to some degree in any environmental issue involving the manipulation of natural systems.

On the other hand, sophisticated scientific techniques have provided more information than can be assimilated and interpreted by experts, let alone the sincere but non-scientific lay person. Dioxin and other substances can be detected at levels which, a few years ago, would have been too low to register. Unfortunately, the ability to detect increasingly lower levels of such substances has not been accompanied by the capacity to analyse the significance of these quantities. Indeed, such analysis would be possible only through extensive and time-consuming testing for environmental and health effects of barely-detectable levels.

These uncertainties have not been placed before the public for consideration within the context of resource management decisions, or as factors to be balanced against possible benefits of pesticides use. Indeed, the argument has so polarized that uncertainties are not acknowledged by either side. Anti-spray groups have adopted the position that these products are not acceptable - any risk cancels any real or potential benefits. Alternatively, the pro-spray group does not acknowledge risk.

The danger of this polarization is, and indeed the result of it has been, that uncommited members of the public have been denied access to the facts or any neutral forum in which to learn and consider the question at issue. Continuation of this situation can lead to the point where propaganda replaces

information, both sides lose credibility, and the ultimate losers are the citizens of Nova Scotia.

The current attempts by the forest industry to counter opposition arguments through education and information are steps in the right direction. It is necessary that the importance of the resource and the benefits of chemicals be discussed in public. However, information provided by the industry is suspect because of its pro-spray position, and while it may serve to balance the information generated by spray opponents, the need for a credible, neutral source of information and forum for discussion remains.